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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,357	03/02/2005	Sun-Ho Chung	123059-05024327	8961
22429 7590 07/09/2007 LOWE HAUPTMAN BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314			EXAMINER FELTON, MICHAEL J	
			ART UNIT 1731	PAPER NUMBER
			MAIL DATE 07/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/526,357		CHUNG, SUN-HO	
	Examiner		Art Unit	
	Michael J. Felton		1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1731

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I, claims 1-9 in the reply filed on 4/20/2007 is acknowledged. The traversal is on the ground(s) that the method and apparatus define a single invention. This is not found persuasive because the special technical feature does not contribute over the prior art.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 10-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3/2/2005.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 2, it is unclear if the applicant is describing the method for determining the amount of "first determined amount of white water" or the "second predetermined amount of white water" or if both are determined using the same parameters.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Marsh (U.S. 3,925,150).

7. Regarding claim 1, Marsh discloses a waste corrugated paperboard repulping system that exploits the different defiberability of the corrugated paperboard components. In particular they show a batch operation in which the pulper is operated for a brief interval with removal of fibers, followed by the addition of more white water and continued pulping, followed by a second removal of fibers. Marsh discloses that, in conjunction with a mesh screen to remove suspended fibers, the first round of defibering continues until a "substantial portion, e.g. one third, of the original charge has been removed," (col. 2, 33-43; col. 4, 56-68).

The observation required by Marsh is inherently the same as detecting the defiberation state of the corrugated board, and Marsh indicates that further observation is required during the defibering of long fibers (col.5, 25-30).

Art Unit: 1731

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh (U.S. 3,925,150) as applied to claim 1 above.

12. Regarding claim 2, Marsh further indicates that the pulper tub is filled with water to a "normal level for conventional pulping". Although this amount is fixed, Marsh does not disclose that this amount of water is dependent on the amount of cardboard.

However, it would have been obvious to one of ordinary skill in the art at the time of invention, that Marsh requires a controlled amount of cardboard be added (this is a batch process), and that constraining the amount of water for the process has the same effect (limiting the amount of raw materials that can be processed) as constraining the

Art Unit: 1731

amount of cardboard. In addition, if more cardboard was needed to be processed, the teaching of Marsh could be used to seek a larger pulper, providing the same relationship found in the instant application.

13. Regarding claim 7, Marsh indicates that water is added to a "normal level for conventional pulping" which requires the measurement of the water level. Marsh indicates that after removal of short fibers, the pulper is "refilled", which is interpreted by the examiner to mean that the pulper is filled to the same level as initially used.

It would have been obvious to one of ordinary skill in the art at the time of invention that the levels described in Marsh require a level meter to measure water level, even if the level meter is the human eye.

14. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh (U.S. 3,925,150), as applied to claim 2 above, in further view of the applicant's admitted prior art and Merrill (U.S. 1,701,331).

15. Regarding claims 3 and 5, the applicant discloses that in the prior art, a dual batch type system is known, and that an operator is required to "use his eye" to determine the degree of defibering (page 3, 20-30). It would have been obvious to one of ordinary skill in the art at the time of invention that the operator, would consider the consistency (measured visually), would be one of the parameters used to determine the extent of defibering. The motivation is suggested by the applicant, in that the actual disintegration of the linerboards is difficult to see, so an operator would rely on other observables, such as the opacity and viscosity (consistency) of the fiber suspension and

Art Unit: 1731

the amount of corrugated board being processed. It would also have been obvious to automate this measurement and control because it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 U.S. 164 (1893). In addition automatic consistency measuring is known in the papermaking art (see Merrill U.S., 1,701,331).

16. Regarding claims 4 and 6, the applicant discloses that in the prior art, a dual batch type system is known, and that an operator is required to "use his eye" to determine the degree of defibering (page 3, 20-30). It would have been obvious to one of ordinary skill in the art at the time of invention that known quantities of corrugated board would be defibered at similar rates, and that an operator would "use his eye" and observe minimum and maximum times for the difibering of long and short fibers. The motivation is suggested by the applicant, in that the actual disintegration of the linerboards is difficult to see, so an operator would rely on other observables, such as the passage of time and the weight of incoming corrugated board. It would also have been obvious to automate this measurement and control because it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 U.S. 164 (1893). In addition automatic consistency measuring is known in the papermaking art (see Merrill U.S., 1,701,331).

Art Unit: 1731

17. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh (U.S. 3,925,150), as applied to claim 1, in further view of Prough (U.S. 5,736,006).

18. Regarding claim 8, although Marsh discloses using water level observations to control water input and output, Marsh does not disclose using flow meters to determine water inputs and outputs. However, flow meters used for this purpose are well known in the art, for instance see Prough (figure 6, element 45), and form more examples: Prough et al. (US 2003/0145962 A1); Salminen (US 2001/0027849 A1); and Seymour (U.S. 6,074,522).

It would have been obvious to one of ordinary skill in the art at the time of invention that measuring the water balance in the pulping system of Marsh could be achieved through the use of observation of water levels, or the use of flow meters. The motivation to use flow meters would have been to automate the invention of Marsh, as visual inspection of water levels is more difficult and error prone for automated system than mechanical or electronic flow meters.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh (U.S. 3,925,150), as applied to claim 1, in further view of Schopper et al. (U.S. 1,995,586) and Moore (U.S. 2,954,082). Marsh does not disclose adding the water in a way to cause the contents of the pulper to swirl, as the examiner believes the applicant intends to claim. However, Schopper et al., disclose adding water through jets to swirl a mixture of water and fiber before further processing and Moore disclose repulping broke with water directed through a passage causing it to swirl and disintegrate the broke. It

Art Unit: 1731

would have been obvious to one of ordinary skill in the art at the time of invention to use motion of water, as disclosed by Schopper et al. and Moore, to further aid the digestion of corrugate boards. Doing so would reduce the amount of mechanical energy needed to disintegrate the corrugated boards.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Felton whose telephone number is 571-272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/526,357

Page 9

Art Unit: 1731

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